

IN THE ABSTRACT OF THE DISCLOSURE

Replace the Abstract of the Disclosure currently of record with the attached new Abstract of the Disclosure.

An error of reception data is corrected using check matrixes for an “Irregular-LDPC code” that are definite and have stable characteristics and a part of shared information is discarded according to error correction information opened to the public. A parity check matrix corresponding to a specific coding rate is extracted from parity check matrix optimized at a coding rate in a desired range while a coding rate is lowered until the error of the reception data is completely corrected, an additional syndrome is generated, and error correction processing is repeatedly executed using the additional syndrome.